

WHAT IS CLAIMED IS:

1. A fence assembly comprising:

a thermoformed panel comprising:

a top,

a bottom,

a first axis defined between the top and the bottom,

a plurality of stakes, each stake extending parallel to the first axis and

having a top return extending perpendicular to the first axis, and

a nestable side portion;

a reinforcement coupled to the panel; and

a post coupled to the panel.

2. The assembly of Claim 1, wherein each top return comprises a rounded shape.

3. The assembly of Claim 1, wherein each stake comprises a major portion and a minor portion that meet at a forwardly protruding ridge.

4. The assembly of Claim 1, further comprising a side cover coupled to a side portion of the panel.

5. The assembly of Claim 1, further comprising a bottom flange.

6. The assembly of Claim 1, wherein the reinforcement comprises a hollow bar and a solid insert disposed within the bar.

7. The assembly of Claim 1, further comprising a flat vertical portion disposed between each stake, wherein the reinforcement is welded to the flat vertical portions.

8. A fence assembly, comprising:

5 a first post;

a second post;

a first thermoformed panel having a first plurality of vertically extending stakes with top returns, and a first side portion; and

10 a second thermoformed panel having a second plurality of vertically extending stakes with top returns, and a second side portion configured to overlap the first side portion of the first thermoformed panel;

wherein the first thermoformed panel is disposed side-by-side with the second thermoformed panel such that the second side portion overlaps the first side portion, and

15 wherein the first thermoformed panel and the second thermoformed panel are disposed in between the posts, the first thermoformed panel being coupled to the first post, and the second thermoformed panel being coupled to the second post.

9. The assembly in Claim 8, further comprising horizontal reinforcements coupled to the panels.

10. The assembly of Claim 8, wherein:

the first side portion comprises a first laterally extending flange;

the second side portion comprises a forwardly extending flange connected to a second laterally extending flange.

5 11. A double-sided wall structure comprising:

a frame having a first side and an opposite second side;

a first thermoformed panel coupled to the first side of the frame, the first thermoformed panel comprising a first three-dimensional, non-extrudable front surface and a first rear surface substantially parallel to the first front surface; and

10 a second thermoformed panel coupled to the second side of the frame, the second thermoformed panel comprising a second three-dimensional, non-extrudable front surface and a second rear surface substantially parallel to the second front surface.

12. The structure of Claim 11, wherein the frame comprises at least a top

15 horizontal beam, a bottom horizontal beam, a first vertical beam and a second vertical beam.

13. The structure of Claim 12, further comprising a support bar coupled to the top horizontal beam of the frame.

14. The structure of Claim 12, further comprising a support bar coupled to the
20 bottom horizontal beam of the frame.

15. The structure of Claim 11, further comprising:

a perimeter; and

side covers covering at least a portion of the perimeter.

16. The structure of Claim 11, further comprising a post coupled to the frame.

5 17. The structure of Claim 11, wherein:

the first rear surface comprises a first plurality of flat sections;

the second rear surface comprises a second plurality of flat sections; and

the frame is coupled to the first and second plurality of flat sections.

18. A double-sided wall assembly, comprising:

10 a first sub-assembly comprising:

a first frame, and

a first pair of thermoformed panels coupled to opposite sides of the first

frame, each of the first pair of thermoformed panels having a front

surface and a rear surface, the panels of the first pair being coupled

15 to the first frame in a back-to-back configuration;

a second sub-assembly comprising:

a second frame, and

a second pair of thermoformed panels coupled to opposite sides of the

second frame, each of the second pair of thermoformed panels

20 having a front surface and a rear surface, the panels of the second

pair being coupled to the second frame in a back-to-back

configuration;

a first post; and

a second post;

wherein the first sub-assembly and the second sub-assembly are disposed side-by-side and in between the posts.

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19. The assembly of Claim 18, further comprising:

a first pair of brackets coupling the first sub-assembly to the first post; and

a second pair of brackets coupling the second sub-assembly to the second post.

20. The assembly of Claim 18, further comprising a first support bar

juxtaposed in an overlapping relationship with the first frame and second frame.

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21. The assembly of Claim 20, further comprising a second support bar

juxtaposed in an overlapping relationship with the first frame and second frame.

22. The assembly of Claim 18, further comprising a top cover disposed over

the first sub-assembly and the second sub-assembly.

23. The assembly of Claim 18, further comprising a bottom cover disposed

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over the first sub-assembly and the second sub-assembly.

24. A method for manufacturing a fencing assembly comprising the steps of:

thermoforming a panel to form a three-dimensional front surface and a rear

surface substantially parallel to the front surface;

providing a thermoplastic post; and

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coupling a reinforcement to a rear surface of the panel.

25. The method of Claim 24, wherein the step of providing a thermoplastic post comprises the steps of:

extruding a hollow tube; and

injection molding a cap.

5 26. The method of Claim 24, wherein the step of coupling a reinforcement to a rear surface of the panel comprises the step of adhering the reinforcement to the rear surface of the panel.

27. The method of Claim 24, wherein the step of thermoforming a panel to form a three-dimensional front surface and a rear surface substantially parallel to the
10 front surface comprises the step of forming a plurality of stakes and returns.

28. A method for assembling a plastic fence, comprising the steps of:

coupling a first thermoformed panel to a first post;

disposing a second thermoformed panel adjacent to the first thermoformed
panel;

15 overlapping a first side portion of the first thermoformed panel with a second side portion of the second thermoformed panel;

removing a portion of the second thermoformed panel to leave a cut-off edge;

covering the cut-off edge of the second thermoformed panel with a side cover;

and

20 coupling the second thermoformed panel to a second post.

29. A method for manufacturing a double-sided wall assembly, comprising the steps of:

thermoforming a first panel to form a first three-dimension front surface and a substantially parallel first rear surface;

5 thermoforming a second panel to form a second three-dimension front surface and a substantially parallel second rear surface; and

providing a frame with a first side and a second side.

30. The method of Claim 29, wherein:

10 the step of thermoforming the first panel comprises the step of forming the first panel with a first plurality of flat portions; and

the step of thermoforming the second panel comprises the step of forming the second panel with a second plurality of flat portions.

31. The method of Claim 30, wherein the step of forming the frame comprises the step of providing horizontal bars and vertical bars configured to abut the first
15 plurality of flat portions and the second plurality of flat portions.

32. The method of Claim 29, wherein:

the step of thermoforming the first panel comprises the step of forming the first panel with a first plurality of flat portions; and

20 the step of thermoforming the second panel comprises the step of forming the second panel with a second plurality of flat portions.

33. A method for assembling a double-sided wall assembly, comprising the steps of:

coupling a first pair of thermoformed panels to a first frame in a back-to-back configuration to form a first sub-assembly;

5 coupling a second pair of thermoformed panels to a second frame in a back-to-back configuration to form a second sub-assembly;

placing the first sub-assembly side-by-side with the second sub-assembly;

coupling the first sub-assembly to a first post; and

coupling the second sub-assembly to a second post.

10 34. The method in Claim 33, further comprising the steps of:

removing a portion of the second sub-assembly to expose a cut-off edge; and

covering the cut-off edge with a side cover.

35. The method in Claim 34, further comprising the step of coupling a vertical support to the cut-off edge of the second sub-assembly.

15 36. The method in Claim 35, wherein the step of covering the cut-off edge of the second sub-assembly with a side cover comprises the step of covering the vertical support.